UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/010,419	12/06/2001	Tomohiro Shinomiya·	FUJX 19.222	5477

26304	7590	03/07/2005

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EXAMINER
PATEL, JAY P

ART UNIT	PAPER NUMBER
2666	

DATE MAILED: 03/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	10/010,419	SHINOMIYA ET AL.
	Examiner	Art Unit	
	Jay P. Patel	2666	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>06 December 2001</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-22</u> is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) <u>3-22</u> is/are allowed.

6)☒ Claim(s) <u>1 and 2</u> is/are rejected.

7)☒ Claim(s) <u>1,3,5 and 8-10</u> is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>12/06/2001</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a)☒ All   b)☐ Some *   c)☐ None of:

       1.☒ Certified copies of the priority documents have been received.

       2.☐ Certified copies of the priority documents have been received in Application No. _____.

       3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
     Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
     Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Claim Objections

1.   Claims 1, 3, 5 and 8-10 are objected to because of the following informalities:

Claim 1, page 42; line 9 the word "band" should be replaced with "bandwidth"

Claim 3, page 43, line 5 the word "band" should be replaced with "bandwidth"

Claim 5, page 44, line 16 the word "band" should be replaced with "bandwidth"

Claim 8, page 46, line 4 the word "band" should be replaced with "bandwidth"

Claim 9, page 46, line 10 the word "band" should be replaced with "bandwidth"

Claim 10, page 47, line 4 the word "band" should be replaced with "bandwidth"

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3.   Claims 1-2 are rejected under 102(e) as being anticipated by Pattabhiraman et

al. (U.S. Publication 2002/0059408 A1).

4.   In regards to claim 1, Pattabhiraman anticipates a line terminating equipment

comprising:

A requisite-bandwidth computing section for computing a requisite bandwidth is anticipated by the connection admission control module (CAC) within an arbiter node that creates and terminates the existence of dynamic channels disclosed by Pattabhiraman in figure 1, CAC 180 and node 121 and on page 4, paragraph 58, 2nd sentence. Furthermore, the CAC module receives channel allocation requests from other nodes within the ring network. These requests anticipate the receipt information content as well as the untransmitted information content. The requests include a required bandwidth and a desired burst rate. Since the required bandwidth is requested to transmit information that the node regularly sends, it is implicit that the required bandwidth is based on the receipt information content; while the desired burst rate is based on the information that hasn't been transmitted as of a particular point in time therefore; it anticipates the untransmitted information content. It is further noted that a burst transmission requires a very high bandwidth for a short transmission time therefore, a desired burst transmission rate is a bandwidth that will be required in the future for any signal that will be transmitted in the future requiring a high transmission rate (Figure 2, CAC 180; page 4, paragraph 59, 2nd sentence).

Pattibhiraman also anticipates a transmission-band determining section for determining a transmission bandwidth to be allotted to said individual terminals in a manner which is determined according to a comparison result of magnitude between a sum total of the requisite bandwidths and the transmission band of a transmission channel. The CAC module further creates a provisioning record that includes a committed bandwidth and a burst rate (Figure 2, CIR 230 and BR 232; page 4,

paragraph 59, sentences 3-5). Furthermore the allocation of bandwidth is includes

grouping together the committed bandwidths and the grouping together the burst rates

(Figure 3, total CIR 362 and total burst allocation 364; page 6, paragraph 66, 2nd and 3rd

sentences).

5.   In regards to claim 2, it inherent that a known transmission bandwidth is allocated

individually and constantly to all or a part of said terminals; Pattibhiraman discloses that

the CAC module creates a provisional record that includes a committed information rate

(figure 2, CIR 230; page 4, paragraph 59, 4th sentence). Therefore, it is inherent that a

constant committed bandwidth is allocated to each terminal at all times.

Pattibhiraman disclosed said untransmitted information content being notified as

content of transmission information to be transmitted via a transmission bandwidth other

than known transmission bandwidth. For instance, a burst transmission requires a very

high bandwidth for a short transmission time therefore, a desired burst transmission rate

is a bandwidth that will be required in the future for any signal that will be transmitted in

the future requiring a high transmission rate (Figure 2, CAC 180; page 4, paragraph 59,

2nd sentence). When a node sends a request for a required bandwidth and a desired

burst rate, it is inherent that the transmission rate that it sends the request on is a

different transmission bandwidth that the one it requests since the arbiter node has

made a decision yet on the allocation request (Figure 1, node 121 and arbiter 170; page

4, paragraph 55, sentences 3-5).

In regards to said receipt information content being measured as content of

transmission information which is received via a transmission bandwidth other than said

know transmission bandwidth, the CAC module receives channel allocation requests

from other nodes within the ring network. The requests include a required bandwidth

and a desired burst rate. The required bandwidth which is desired for the receipt

information content hasn't been allocated yet to the node and therefore, the node has to

send the request at a different transmission rate that the one it requests because the

request hasn't been processed yet (Figure 1, node 121 and arbiter 170; page 4,

paragraph 55, sentences 3-5).

In regards to a new transmission bandwidth being allocated to each terminal, once

the arbiter node decides to grant the request to the node for the desired bandwidth and

burst rates, the node has been allocated the transmission bandwidth that it had

requested (Figure 1, node 121 and arbiter 170; page 4, paragraph 55, sentences 3-5).

Therefore, Pattibhiraman also anticipates the last limitation of the claim.

Allowable Subject Matter

6.   Claims 3-22 are allowed.

7.   The following is an examiner's statement of reasons for allowance:

8.   Claims 3 and 10 are allowable over the prior art made of record since the cited

references taken individually or in combination fail to particularly disclose **a**

transmission-bandwidth allotting section for allotting a transmission bandwidth

to said individual terminals, the transmission bandwidth being equal to a product

of the computed requisite bandwidth and a ratio δ, the ratio δ being a ratio of a

transmission bandwidth of a transmission channel to a sum of: a product of a

sum total of the requisite bandwidths and a coefficient γ (> 1); and a sum total of

minimum transmission bandwidths to be allotted to said individual terminals. It is

noted that the closest prior art Pattabhiraman et al. (U.S. Publication 2002/0059408 A1)

shows a method for dynamic allocation of bandwidth based upon the request sent by

individual nodes to an arbiter node that responds to the requests and fairly allocates the

available bandwidth on a shared medium. However, Pattabhiraman et al. fail to

disclose or render obvious the above underlined limitation as claimed.

9.   Claim 5 is allowable over the prior art made of record since the cited references

taken individually or in combination fail to particularly disclose **a transmission-**

bandwidth allotting section for allotting a sum of a deficient bandwidth and a

bandwidth to said plurality of terminals via said interfacing section and said

transmission channel when a sum total of the computed requisite bandwidths is

smaller than the transmission bandwidth of said transmission channel, the

deficient bandwidth being given as an increasing function of the untransmitted

information content collected, the bandwidth being obtained by proportionally

distributing a surplus bandwidth other than the deficient bandwidth in the

proportion of the computed record-depending bandwidth to the whole record-

depending bandwidth. It is noted that the closest prior art Pattabhiraman et al. (U.S.

Publication 2002/0059408 A1) shows a method for dynamic allocation of bandwidth

based upon the request sent by individual nodes to an arbiter node that responds to the

requests and fairly allocates the available bandwidth on a shared medium. However,

Pattabhiraman et al. fail to disclose or render obvious the above underlined limitation as

claimed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jay P. Patel whose telephone number is (571) 272-3086. The examiner can normally be reached on M-F 9:00 am - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ken Vanderpuye can be reached on (571) 272-3078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

jpp 2/23/2005
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